For the Weekly Tribune.

VENUS AND VULCAN.

BY MISS LAURA M. COLVIN.

It was the marvel of my early dreams
That Venus unto Vulcan should be given.
The goddess rises from her couch of foam
With charms transcendant, and in magic zone,
She floats along, by rosy zephyrs borne,
The Queen of Love and Beauty. She is won,
Whom all the gods were eager to adore,
By Vulcan of the grim and forceful forge.
An uncongenial union, once methought,
And sadly from the fable turned away;
And yet how deeply is its meaning graved
Upon the frontal of the actual world.
Beauty allied with Strength, thus should it be.
Behold the mountain on its rugged throne
In its unshaken majesty and pride,
Frowning, in sterile steeps, upon the vale:
Lo Beauty comes embracing it with bloom,
And rocks, as erst herself in tinted shell,
In dark, old evergreens upon its hights.
The stars are beaming from their azure home,
As when the Chaldian's prophecies they wore.
Armored in strength, they rest their golden shields
Against the massy battlements of heaven,
As I look on Time, who folds his blighting hand
Before their beauty. Midnight walks the earth:
Her dusky sandal gives no echo forth,
Yet potent is her presence, strong her spells,
Unstayed her footstep, as the conqueror's car
In flush of triumph, as the rushing tide,
The viewless winds: Another glides along
Her silent, sombre hours, and weaves their woof
With sweet forgetfulness and bright-hued dreams.
With swift, strong pinions sweeping o'er their
realm,
From the full fountains of the universe
Where they have drank of melody, they come,
The sister spirits, Music, Poesy;
Still in their prime as when they first rejoiced,
And with the morning stars together sung;
And still their presence o'er the human heart,
Steals thrillingly as erst in Eden bowers.
Speed on, speed on, in radiancy and power,
Ye glorious angels, Music, Poesy;
See Knowledge watch by his illumined shrine,
Reading with reverent, never-failing eye
The mysteries of Creation. Titan-like,
He grasps the mountains, scans the darkling mine,
Follows the planets through the trackless air,
And measures with infinity his thought;
While on his brow, immutable, there sits
Benignant beauty. Never faileth Love,
Though Pestilence, and Penury, and Scorn,
And all the myriad ills of life, assail;
She lits her lamp with purer, stronger beams,
Above the gathering gloom, and goeth on,
Smiling at her own tenderness and power;
Beautiful alike when shrined at home,
And in the fireside's luster counting o'er
The joys and cares of many a tranquil year,
Or when she dwelleth 'neath the roof of kings,
And in the dimming atmosphere of courts,
Weaveth her garlands in their native bloom.
There sweepeth by a silent, shadowy train;
It is the march of hours. The phantom hand
Of sorrow waveth toward their sepulcher;
Young Hope lists to their footfall with a smile;
While joy with siren voice would bid them stay;
In vain, nor pause, nor haste, their pathway knows;
Silent, and stern, and strong, they keep their course;
Yet robed in sunshine, shrouded deep in gloom,
Still do they pass in beauty. Go and view
The heavy centuries since Earth was young,
Behold like waves the nations rise and fall,
Go to the cities on the desert's lap,
In desolation's long and dreamless sleep;
Scan well the Past, and of the Future dream,
Read as thou canst the mysteries of Time,
And write sublimest beauty on the hours.
Ay, Strength and Beauty crystal pillars are
Upholding fair Creation. Chaos dim
Smiled when she saw them rising from her realm,
So glorious they from Architect divine.
Ay, Strength and Beauty, fitly do ye blend,
As do the rugged oak and graceful vine,
As does the rainbow o'er the storm cloud bent;
And thought on swift-winged errand stealeth back,
Beneath the ivied portals of the Past,
Unto your bridal. Lo, Olympus dawns!
Lo, Vulcan and his peerless, sea-born bride!

PATENT OFFICE REPORT.... PART II.

Agricultural Statistics.

The value of agricultural statistics depends on their general accuracy and being reliable for all business purposes. Wrong information as to the quantity of grain, tobacco, and other crops annually grown, and misstatements in reference to their market value, are calculated to mislead the unwary—tempting thousands to invest and sink their capital in uncalled for and disastrous operations.—Farmers have complained that the Patent Office Reports overestimated the quantity of tobacco, breadstuffs, and other staples, to a degree which injuriously affected the market price of the products of their industry.

In the absence of a regular census, there is no way to determine, with any approach to accuracy, the amount of grain and provisions annually produced; and it is thought better to make no estimates at all, so far as the official returns are defective, than to fabricate statistics by mere guessing. The injury that results from this is not confined to the farming interests, but all dealers in and consumers of agricultural products are equally liable to sustain pecuniary loss by the public credit given to erroneous statements emanating from a department of the Government. Whoever attempts to furnish statistics should bear in mind that in the same degree in which *true* information is valuable, *false* information is injurious to the community.—Certainly the great farming interest of the country has a right to exemption from harm, if Government can do it no good.

In the last Patent Office Report the wheat crop of Michigan is estimated at 10,000,000 bushels. The census of that State for 1849 gives the amount at 4,739,299 bushels, showing an over-estimate of more than 100 per cent. Instead of placing the value of the estimated 10,000,000 bushels at something like the worth of this crop to the producer, every bushel is set down at $1 15, giving an aggregate of $11,500,000. Seventy cents are quite as much as the farmers of Michigan realized for their wheat in 1848; and, by correcting both the quantity and price, the figures are reduced to $3,317,509, or to nearly one fourth of the sum said to have been obtained.

Hitherto no very definite objects appear to have been sought in collecting statistical information pertaining to rural affairs. In consequence of this lack of purpose, the means employed have been inadequate, except to accumulate a mass of figures for the truth of whose statements no one was responsible. Statistics, to be worthy of the name, must be founded on facts entitled to confidence. What evidence is there on which one may presume to name the tuns of hay or bushels of grain grown in the State of New-York in the year 1849? There is none whatever, nor has there been since the State census of 1845. Why, then, waste time and paper in writing and printing crude guesses in an official document, to mislead the public? Instead of repeating an operation which is believed to be worse than useless, an humble attempt will be made in this chapter to point out a few defects in the agricultural statistics of the country, and suggest such improvements as are most desirable and practicable.

If the question were asked, of what crop grown in the United States do the people export the largest amount in value? the anwer would be, cotton; for it pays for nearly two-thirds of all the imports of the country. If an American statesman, merchant, or farmer, were to ask, how many acres are planted in this crop? the answer must be: I cannot say, for in no cotton-growing State has a census ever been taken, either by the Federal Government or by its Legislature, which gave the number of acres devoted to this staple.

Here is a most extraordinary omission, and one which has largely contributed to the unwise exhaustion of millions of acres of the best cotton lands in the world.

If the question were asked, how many acres are planted in tobacco? nobody can tell; for neither Congress nor any State Government has deemed the matter of sufficient importance to ascertain the fact. No United States census has ever given information as to the number of acres sown in wheat, rye, barley, oats, hemp, flax or peas, or planted in corn, potatoes, beans, or any other hoed crop.

If the questions were asked, how many sheep were shorn in 1840 to yield the 35,802,114 pounds of wool, and how many lambs were *not* counted as "sheep" in the 19,311,374 enumerated, no one can answer. The fleeces clipped have never been counted; nor has any census given the number of cows milked in the United States. So far as reliable statistics are concerned, all our farming operations are conducted in midnight darkness. Nothing is so much needed as the annual record of trustworthy facts, extending over all the States, setting forth the productive power and value of both land and labor, when employed to the best advantage. So soon as this shall be done, whether by State Legislatures or Congress, it will be seen that the labor and soil of one farmer give twice as good returns for the benefit of himself and the community at large as do the labor and soil of another, although the land of both may be alike productive. The returns procured through the medium of a few plain, simple questions, put by the Assessors or Collectors of Taxes, would demonstrate the truth of the above remark; and, when demonstrated, those who fail to use their means to the best advantage, will discover their errors and immediately change for the better.

So soon as legislatures shall be willing to promote improvements in tillage and husbandry, nothing is easier than to effect the desired object.—Bring the practical results of the art, the science, and the energy devoted to agriculture often before the public, and the influence of thousands of good examples will tell powerfully in favor of universal advancement. Good and bad farming are now so blended that delinquents escape nearly all exposure; while such as do well are denied that distinction which is the just reward of merit. There is no resisting a legitimate argument, sustained by conceded facts. Mistakes in practice and errors in theory must give way before the light of truth; and *the truth alone* should be diligently sought, and widely disseminated among the farmers of the Republic.

When we shall be permitted to know the exact difference in the organic structure and productive value of the machinery which transforms grass, grain, roots, and other vegetable food into milk, meat, wool and horseflesh, it will be seen that some domestic animals yield a profit ten times larger than others. There are samples of wool in the Patent Office, the product of a sheep that yields 18 lbs. of washed wool a year, and weighs 420 lbs.—This mammoth sheep is the property of Col. Josiah W. Ware, of Clarke county, Virginia, whose best fat weathers sell at $35 a head.

In no branch of husbandry can greater or more profitable improvements be made than in wool-growing. Instead of importing so many millions of pounds of wool in broadcloth, flannel, and raw material, American farmers should supply the home demand, and have a large surplus for export. It is much to be regretted that the census of 1850 will give no information as to the number of fleeces clipped in the United States. Without this knowledge it will be impossible to know what county or district gives the most wool per fleece.

The statistics of the dairy business are more defective than those pertaining to sheep-husbandry.—The counting of cows in all the States is the first step toward their universal improvement; but this is yet to be taken. Previous to 1845, the number milked in the State of New-York was not known; and it required some effort to persuade its Legislature to have them counted. In that year the number was 999,490. This number (so near a million) attracted public attention to the production of butter and cheese, and the improvement of milch kine, in a remarkable degree.

To the New-York State Agricultural Society, and especially to its indefatigable Secretary, B. P. Johnson, Esq. great credit is due for successful efforts to advance this important interest. It is thought by those best informed on the subject, that 1,100,000 cows in that State now yield an average return of $20 a head. One of its best dairymen expresses the opinion in the Transactions of the State Society for 1849, that the dairy products of that Commonwealth will reach, at no distant day, $50,000,000 per annum. The business is rapidly extending in Northern Ohio, and more or less as far South as Georgia. Excellent cheese, from two dairies in that State, were exhibited at the well-attended State Fair held at Stone Mountain, in August, 1849. About sixty cows are milked in one of these daries, and not far from one hundred in the other. Both are profitable, new cheese selling at from ten to fifteen cents a pound. The annual consumption of cheese at the South is increasing, and we know nothing that should prevent the farmers of Tennessee and other States in that quarter of the Union from producing enough for home consumption, if they make none to export. There are dairies in the State of New-York which turn out six hundred pounds of good cheese per cow in a year; but from three to four hundred pounds is a more common yield.

Intimately connected with the economical production of butter and cheese, is the art of making cheap *pork* for family use. For rearing pigs buttermilk and whey are admirably adapted; but where hogs are to be grown in a large way, a different system is practised. Clover, peas and oats, fed off in the field by hogs, produce meat at a cheaper rate than it can be made on corn alone.—According to the results attained by Mr. Ellsworth, late Commissioner of Patents, three and a half pounds of corn will form a pound of good pork; although most farmers give five pounds of corn for one of pork. Our statistics relating to the production of meat, whether beef, pork, veal or mutton, are meager and extremely defective. Very little science has been brought to the aid of American farmers either in the production or curing of provisions of any sort. In shipping perishable commodities of this kind to distant markets, and particularly to England, agriculturists in this country labor under many disadvantages. Much of the salt sold in the United States is too impure to save meat, butter, and cheese well. From this defect alone immense losses are sustained.

To compete with Englishmen in feeding people at their own doors, while Americans have to transport their breadstuffs and provision from three to four thousand miles to reach the consumer, is obviously a hard business for our farmers. In the operation, their cultivated fields lose all that is exported, and receive nothing whatever in return. But independently of this, probably more than half the butter sent to England from this country is sold as *grease*, and at half the market price of a good article. This injures the reputation of all American butter, and diminishes the demand for it abroad. Equal complaint is made of the bad methods in which we cure and handle bacon for English consumption. Our export of pickled pork, bacon, lard and live hogs, during the year ending June 30th, 1849, was $9,245,885. After making due allowance for every disadvantage, it is believed to be better farm economy to convert corn into pork and lard to send abroad, than to export the grain or meal. By thus saving all the manure which the corn will make, the expense of growing this crop, and consequently the cost of the pork and lard, may be reduced from 25 to 50 per cent. Ripe, dry corn should be boiled, especially if it is not ground, before it is fed to swine, cattle, or sheep. And it will more than pay the expense to boil corn fed to working mules, horses or oxen.

The statistics of the raw materials consumed and wasted in the production of every crop, and in the food of every animal kept on the farm, deserve to be studied with peculiar care. Few appreciate the immense loss sustained by first impoverishing arable lands, and then cultivating them in wheat, cotton, corn, grass, and other crops, with a poor return for the labor bestowed. In a national point of view, it is susceptible of demonstration that all labor which impairs the natural productiveness of the earth is worse than thrown away, no matter what the price paid for the products of such labor. We should ever bear in mind that the continued fruitfulness of the soil is above all price.

It may not be amiss to inquire, what amount of the elements of bread and meat, cotton, tobacco, and other crops, is annually extracted from the surface of the earth in this country, and never restored to the fields whence it was taken. In answer to circulars issued from the Patent Office, several gentlemen at the South have stated that, to supply slaves on plantations with bread, including old and young, requires from 12 to 13 bushels of corn each a year. Taking 13 bushels as the average consumption, of the 22,000,000 of people in the United States, of breadstuffs, and the aggregate is 286,000,000 bushels per annum.

Without deeming it necessary to go into an explanation to prove why it is so, the fact may safely be assumed that the elements of fertility contained in all the meat, milk, butter, cheese, potatoes, fruit and garden vegetables consumed by the American people, exceeds 10 per cent the amount which exists in the grain consumed. It is sufficient for my purpose, however, to place the estimate below 10 per cent and call the fertilizing elements contained in these articles of human food equal to 314,000,000 bushels of corn. By adding together the sums abovenamed, we have 600,000,000 bushels of corn, in effect taken from American soils, of which next to none is ever returned in night-soil or liquid manure.

The most intelligent wool growers estimate the number of sheep now in the United States at 30,000,000. In 1840 the number of swine was 26,301,293. At the usual rate of increase, their present number is not far from 35,000,000. The number of neat cattle in 1840 was 14,971,586. Their present number should be about 19,000,000. At the last census the number of horses and mules was 4,335,669. Their present number approaches 6,000,000. By estimating all the poultry as equal to 10,000,000 of sheep, (a low estimate,) there are now in the United States 100,000,000 of domestic animals, not to count goats and dogs, of which there are some millions. That these domestic animals draw their subsistence from the soil is plain enough; but to say what part of the elements of the food consumed is never restored to any improved land is impossible. It is below the truth, in the judgment of the writer, to say that one-third of all the manure voided by the horses, mules, cattle, sheep and swine in the United States, is wasted. If so, the annual loss is more than equal to the production of two bushels of corn to each animal; or the aggregate exceeds 200,000,000 bushels.

We have now to estimate the annual loss incident to the production of the great staples of cotton, tobacco, sugar-cane, hemp and flax, not to name smaller crops. Not far from ten millions of acres are annually planted in cotton, cane, tobacco and hemp. It is a serious misfortune that the census of 1850 will throw no light whatever on either of these crops, so far as the area planted is concerned. Judging from our knowledge of the subject, we should prefer to have a field produce 20 bushels of corn per acre, and part with all the grain, retaining the stalks, blades, cobs, weeds and grass, to renovate the land, to having it cultivated in cotton, tobacco or hemp, in the usual way of growing these crops. The damage done to the ten millions of acres devoted to the culture of these staples is equal to the growth and exportation of 200,000,000 bushels of corn a year. While we have said nothing of the breadstuffs and provisions actually sent out of the country, and have conceeded that two-thirds of all the liquid and solid excretions of all domestic animals are saved and turned to a profitable account—a statement which few farmers familiar with the husbandry of many States will endorse—yet the aggregate loss is equal to the production of one thousand million bushels of corn, or of half that quantity of wheat.

It may be said that this prodigious annual waste of the raw material for making human food and raiment is a matter of no practical consequence; and that each cubic foot of soil contains an unlimited amount of the precise things which nature consumes in forming cotton, wheat, corn, tobacco, sugar cane, and other cultivated plants. This is the popular opinion, and the practice of American agriculture is based on this mistaken theory. Those farmers who do most to impoverish their cultivated fields are the greatest *theorists* in the country. It is so much easier to adopt a ready-made theory, handed down from one's father and grandfather, than to study the several substances in a soil required to give a generous harvest, that ninety-nine in a hundred adopt the former course. How few agriculturalists have any other knowledge o the quantity of any essential element of wheat or corn available to the growing plant, which any given amount of his soil contains? The atoms that form the crop, whether in the earth, or in the atmosphere, are rarely studied by practical farmers.—Every cultivated plant contains an appreciable amount of potash and phosphorus—not to name other minerals drawn from the soil. Without some alkali and phosphoric acid, no one has ever succeeded in producing the seed of any cereal plant. Nor can a cotton, potato, or tobacco plant be grown to maturity without those soluble earthy salts, which appear as *ashes* when such plants are carefully burnt. If a farmer were to ask the price of phosphorus at any shop that deals in the article, he would find that it is worth from two to three dollars a pound. The phosphorus of commerce is mostly obtained from the bones of domestic animals.

The high market price of this substance proves its scarcity. There are few soils which contain, in an available form, so much as one part of phosphoric acid, or one of potash in the thousand; and yet, in the plenitude of our national folly, we annually throw away in our cities, villages, and on our farms, enough of potash and phosphorus to make 500,000,000 bushels of wheat, or twice that quantity of corn! Let the agriculturists who are troubled to raise good crops of wheat, remember that not far from 80 per cent. of the incombustible earthy matter consumed by nature in forming the seeds of this plant, are *potash* and *phosphoric acid*.

When will Congress or some State Legislature appropriate the small sum of $1,000, needed to demonstrate in a practical way *the cost of making a new soil*, equal in potash, soda, magnesia, lime, chlorine, soluble silica, phosphorus, sulphur, nitrogen, and carbon, in the condition of mould, to a fair virgin earth, before the work of exhaustion begins?

Statistics of this kind would be invaluable to the whole country. Of course, the renovation of land can be effected much cheaper in some localities than in others; but the critical study of the subject with reliable weights and measures, both of raw material consumed and product, at one place, would throw much light on one of the most important problems in the art and science of agriculture.

How much of the earthy elements of crops can an acre of tilled land part with every year, and not diminish in fertility? This is a question of fact, not one of theory; and who among the three millions of farmers in the United States can answer it?

So soon as the American people can be persuaded to study Agricultural Statistics as a science, the surplus of the elements of bread and meat, wool and cotton, which really exists in some soils, will be carefully husbanded, and applied in the most economical manner to such as lack in that regard. In this way every acre having a climate congenial to the purpose can be made to yield a bale of cotton a year, or 60 bushels of corn, or 25 of wheat.

No department of husbandry is more interesting to the thoughtful farmer, or more promising of auspicious results, than the careful study of fertilizers. But we are sorry to say that no State in the Union has regarded statistics on this subject as worth the trouble of collecting. In several of the planting States cotton seed is much used as a manure, and it is very desirable to know how many additional bushels of wheat or corn 1,000 bushels of cotton seed ought to give the skillful agriculturist. We have reason to believe that one planter realizes twice the benefit from this exceedingly valuable fertilizer that is obtained by another. Similar remarks will apyly to the manure derived from the consumption of 100 or 1,000 bushels of corn, where the whole matter voided is carefully preserved from loss.

The essential facts pertaining to the feeding both of plants and animals, are permitted to remain in lamentable obscurity. Why should a farmer, who has a quantity of stable or yard manure to haul to a distant field, be compelled to carry out eighty five loads of simple water in every one hundred of this valuable fertilizer? It is rare indeed that barnyard manure contains less than eighty per cent. of water, and it often has eighty-eight per cent. Is there no way to avoid this obvious loss of labor? As one hundred pounds of guano (the dung of sea birds) frequently produce five hundred of corn, or three hundred of wheat, why may not similar elements of crops, in the excretion of all domestic animals, be alike concentrated, and drilled in with the seed, or scattered broadcast over the land? Why throw away more solid, hard work on 100,000,000 acres, than all the mechanics and manufacturers in the country perform, in an attempt as foolish as to carry freight in knapsacks, and travel on foot in competition with modern railroads? If one hundred pounds of the best guano is better to augment a crop of grain than a like weight of common loam, or stable manure, there must be a reason *why this is so*. What is this reason? We can only give a few hints; and in the first place, let the reader consider well the fact, that in one hundred pounds of wheat there are ninety five of the elements of water and charcoal, called carbon.

Now, wheat plants are not wholly dependent on the mould in the soil for carbon and the elements of water; and the farmer should take advantage of this fact. The other five parts in one hundred of wheat being organized nitrogen, and the incombustible part of the seed, are less abundant, in an available condition; and these lacking ingredients must be supplied by the husbandman. Of these elements guano really contains, when pure, and the dung of pigeons also contains, more than any other product of nature. Hence, when estimated in pounds, the dry excrements of birds are more valuable than those of cattle, or man even, although the man, the ox and the bird may each consume corn or wheat. There is reason to believe that when birds eat 200 ounces of wheat, their excretions dried will weigh about the same as those of a pig or person formed by half that quantity of wheat, provided neither animal nor bird gains or loses in weight. The solid excretions of a horse, and, so far as is known, of all quadrupeds, by the bowels and kidneys are about 40 per cent. of the food consumed.

The other 60 parts in 100 escape from the system mostly as carbonic acid and vapor given off in breathings. In birds, the weight of the matter which escapes through their lungs is some 80 per cent. and the guano about 20 per cent. If this estimate approximates the truth, then a pigion must consume 50 grains in weight of wheat or worms to form 100 of dry dung; and, if nature is true to herself, the fertilizer derived from 500 grains of wheat should reproduce the amount consumed. The essential truth in this matter is, that so much of the elements of animal food as escape into the atmosphere by respiration and insensible perspiration, may safely be dispensed with in feeding cultivated plants. The matter that escapes is mainly the elements of water and carbonic acid. Although organized carbon, oxygen and hydrogen, are far from being valueless as manure, they are not so indispensable to be artificially applied as ammonia and salts of potash, lime and magnesia. Much the larger portion of the food of animals, taken into the stomach, is absorbed and passes into the blood vessels.

If any one branch of farm statistics is more important than the others, it is that which relates to the skilful production and use of manure. Few are aware how much labor and money are lost by popular ignorance on this subject. Boussingault fed a horse, which neither gained nor lost weight, with 20 lbs. of hay, and 6 of oats, and 43 lbs of water a day. In the food consumed there were 22 lbs. 6 oz. of perfectly dry matter. The dung and urine voided in 24 hours, when equally dried, weighed 10 lbs. 3 oz; showing a loss by breathing and insensible perspiration of 12 lbs. 3 oz. In the hay and oats there were 10 lbs. 6 oz. of carbon (charcoal); in the excrements only 3 lbs. 11 oz. 7 pennyweights; being a loss of nearly 70 per cent.

In the food there were 8 lbs. 7 oz. 2 pennyweights of oxygen (vital air); in the excrements only 3 lbs. 7 oz. 16 pennyweights. The loss of weight in hydrogen (it existing in the food as one to eight of oxygen) was about in the same proportion. There were 4 oz. 9 pennyweights of azote (nitrogen) in the food, of which 3 oz. 14 pennyweights appeared in the dung and urine. Of earthy salts there were 1 lb. 6 oz. 10 pennyweights in the hay and oats; in the excretions, 1 lb. 6 oz. 2 pennyweights.

The critical study of the above data will show that 100 lbs. of hay and oats yield about 40 lbs. of dry manure. It is known that manure heats, ferments, rots, and loses weight. This chemical operation can be so conducted as to reduce the weight one half, without essentially or equally reducing the fertilizing power.

If a pound of ammonia, phosphate of potash, soda, lime and magnesia, is worth as much in night-soil as in imported guano, then there is no need whatever in importing manure from Peru and Africa. We learn from dealers in the article that some $60,000 are paid for Peruvian guano a year in the District of Columbia alone. Not only can this sum of money be saved, but guano equal to and indentical with the Peruvian can be manufactured and sold in the city of Washington at half the price of the imported article, at a fair profit. There is not an element in guano which does not exist in bread and meat; and taking the market value of this dung of sea birds as the standard, ($50 a ton,) and the fertilizers annually wasted in this city (Washington) are worth $150,000. If Congress will give the Agricultural Department of the Patent Office $500 to test this matter in a practical way, the best method of preparing poudrette can be published in the next Annual Report from this Office, and will be received with great satisfaction by the farmers of every State in the Union. It is no reflection on American agriculturists to say that the science of preparing manures is little understood; for we have no agricultural schools in the country, and neither Congress nor any State Legislature has given a dollar to foster the scientific investigation of fertilzers.

Some may say that this subject has nothing to do with agricultural statistics, and that no facts but such as relate to the quantity and value of crops and other products of rural industry should be discussed under this head. But how is one to know the value of the hay and grain, grass and roots made and consumed on a farm, without regard to the meat, wool, butter, cheese, horses, mules and *manure*, into which these crops are converted? From a lack of practical knowledge of farming in those who made out the official estimates of the worth of crops grown in 1839, as shown in the census of 1840, errors were made which approximate $200,000,000. Professor Tucker, in his valuable work on the "Progress of Population and Wealth in the United States in Fifty Years," sets down all the hay grown in the great States of New York and Pennsylvania as worth nine dollars a tun. Nearly all of this hay was consumed on the farms where it was cut, by cattle, sheep and horses. Now, instead of being worth nine dollars a tun to rear young stock or feed sheep, four and a half dollars is nearer the true estimate. But, while the farmers of New-York were credited some thirty millions of dollars for their hay crop (two prices), they were also credited with the wool and dairy products which this hay formed in part. Professor Tucker is either not a practical farmer, or he is one who has paid little attention to profit and loss in rural affairs. All the hay grown in the United States in 1848 is estimated, in the last Patent Office Report, at $8 a tun. In making an agricultural tour through the State of Ohio in October, 1849, the writer met with a gentleman in Springfield who had three hay-presses at work north of that city on the railroad, and bought large quantities of good timothy hay, delivered, at $3 a tun. This hay was sent to Cincinnati, and shipped to New-Orleans and other southern markets.

In the last Patent Office Report, all the corn grown at the West as well as in the Atlantic States is estimated at *fifty-nine cents* a bushel; and all the meat made from this grain is set down at a proportionate price. Thus, a Tennessee corn-grower who raises a crop of 10,000 bushels, worth 20 cents a bushel, which he converts into fat hogs and sells for $2,000, is credited first with $5,900 for his crop of corn, and then a like sum for his crop of hogs! This system is strictly adhered to throughout the whole calculation, and, with other errors, results in an over estimate of some one thousand million of dollars. The late Secretary of the Treasury estimated the productive labor of the country as equal to $3,000,000,000, which is too high by $1,800,000,000. The money value of a good living to 22,000,000 of industrious people, who both produce and consume it in the course of a year, is idle to calculate.

GRINDING COAL.—Our attention was attracted on yesterday, during a walk down the Canal bank, about three miles above the city, by a mill used for grinding the bituminous coal, which is obtained from the pits in the vicinity of Richmond. The coal, when ground, gains in bulk five bushels in every forty. It is reduced almost to an impalpable powder, and then passed through a bolting cloth as fine as 50 wires to the inch. The barrels in which it is placed, when thoroughly powdered, are compelled to be cautiously lined with paper.

This ground coal is shipped to the Northern cities, where it is used for the purpose of sprinkling the inner surface of the moulds for large metal castings, its gaseous quality preventing the too sudden cooling of the melted metal, and the formation of air cells in it.

The machinery for the large number of Ocean Steamers now building in the Northern cities, which has to be cast with great caution, renders the demand for the ground coal a very lively one; and the gaseous quality of the Virginia coal gives it a precedence for that purpose over any other.
[Richmond Whig.

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THE NEW-YORK TRIBUNE.

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